

What is claimed is:

1. A method in a data processing system for producing a three-dimensional rotational image from a two-dimensional image including a plurality of objects, the method comprising the steps of:

5 assigning each object to one of a plurality of sequential layers that correspond to visually depicted depths of the objects in the two-dimensional image; and

10 rotatively displaying the objects to produce the three-dimensional rotational image.

2. The method of claim 1, wherein the objects are assigned to the layers so that within a given layer the object assigned to that layer neither overlaps with nor is included within another object in the given layer.

3. The method of claim 1, wherein the step of rotatively displaying the objects further comprises the step of:

20 rotating the objects of each layer around a common rotational axis to form the three-dimensional rotational image having a maximum rotational angle around the rotational axis with each object in a first of the layers having a minimum rotational angle and objects in layers other than the first layer having a rotational angle greater than the minimum rotational angle and less than or equal to the maximum rotational angle.

25 4. The method of claim 1, wherein the three-dimensional rotational image is symmetrical with respect to a plane in which the rotational axis is located.

5. The method of claim 1, further comprising the step of:
30 when rotatively displaying the objects, modifying an area of each object by a predetermined scaling factor.

6. The method of claim 1, further comprising the step of:
prior to assigning the objects to the layers, ordering the objects in a
sequence based on depths of the objects in the two-dimensional image.

5 7. The method of claim 6, wherein the objects are ordered so that the
object having a greatest depth is first in the sequence.

8. The method of claim 6, wherein the objects are assigned to one of the
plurality of sequential layers, beginning with a first object in the sequence.

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9. A method in a data processing system for producing a three-
dimensional rotational image from a two-dimensional image including a plurality of
objects, the method comprising the steps of:

15 ordering the objects in a sequence based on depths of the objects in the two-
dimensional image;

sequentially assigning each object in the sequence to one of a plurality of
layers so that within a given layer an object assigned to that layer neither overlaps
with another object in the given layer, nor is included within another object in the
given layer;

20 rotating the objects of each layer around a common rotational axis to form
the three-dimensional rotational image having a maximum rotational angle around
the rotational axis with each object in a first of the layers having a minimum
rotational angle and objects in layers other than the first layer having a rotational
angle greater than the minimum rotational angle and less than or equal to the
25 maximum rotational angle; and

displaying the three-dimensional rotational image.

10. A computer-readable medium containing instructions that cause a data processing system to perform a method for producing a three-dimensional rotational image from a two-dimensional image including a plurality of objects, the method comprising the steps of:

5 assigning each object to one of a plurality of sequential layers that correspond to visually depicted depths of the objects in the two-dimensional image; and

rotatively displaying the objects to produce the three-dimensional rotational image.

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11. The computer-readable medium of claim 10, wherein the objects are assigned to the layers so that within a given layer the object assigned to that layer neither overlaps with nor is included within another object in the given layer.

15 12. The computer-readable medium of claim 10, wherein the step of rotatively displaying the objects further comprises the step of:

rotating the objects of each layer around a common rotational axis to form the three-dimensional rotational image having a maximum rotational angle around the rotational axis with each object in a first of the layers having a minimum
20 rotational angle and objects in layers other than the first layer having a rotational angle greater than the minimum rotational angle and less than or equal to the maximum rotational angle.

25 13. The computer-readable medium of claim 10, wherein the three-dimensional rotational image is symmetrical with respect to a plane in which the rotational axis is located.

14. The computer-readable medium of claim 10, further comprising the step of:

30 when rotatively displaying the objects, modifying an area of each object by a predetermined scaling factor.

15. The computer-readable medium of claim 10, further comprising the step of:

prior to assigning the objects to the layers, ordering the objects in a sequence based on depths of the objects in the two-dimensional image.

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16. The computer-readable medium of claim 15, wherein the objects are ordered so that the object having a greatest depth is first in the sequence.

17. The computer-readable medium of claim 15, wherein the objects are
10 assigned to one of the plurality of sequential layers, beginning with a first object in the sequence.

18. A computer-readable medium containing instructions that cause a
15 data processing system to perform a method for producing a three-dimensional rotational image from a two-dimensional image including a plurality of objects, the method comprising the steps of:

ordering the objects in a sequence based on depths of the objects in the two-dimensional image;

20 sequentially assigning each object in the sequence to one of a plurality of layers so that within a given layer an object assigned to that layer neither overlaps with another object in the given layer, nor is included within another object in the given layer;

25 rotating the objects of each layer around a common rotational axis to form the three-dimensional rotational image having a maximum rotational angle around the rotational axis with each object in a first of the layers having a minimum rotational angle and objects in layers other than the first layer having a rotational angle greater than the minimum rotational angle and less than or equal to the maximum rotational angle; and

displaying the three-dimensional rotational image.

19. A data processing system for producing a three-dimensional rotational image from a two-dimensional image including a plurality of objects, the data processing system comprising:

a memory comprising a program that

5 assigns each object to one of a plurality of sequential layers that correspond to visually depicted depths of the objects in the two-dimensional image, and

rotatively displays the objects to produce the three-dimensional rotational image; and

10 a processing unit that runs the program.

20. The data processing system of claim 19, wherein the objects are assigned to the layers so that within a given layer the object assigned to that layer neither overlaps with nor is included within another object in the given layer.

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21. The data processing system of claim 19, wherein the step of rotatively displaying the objects further comprises the step of:

rotating the objects of each layer around a common rotational axis to form the three-dimensional rotational image having a maximum rotational angle around the rotational axis with each object in a first of the layers having a minimum rotational angle and objects in layers other than the first layer having a rotational angle greater than the minimum rotational angle and less than or equal to the maximum rotational angle.

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22. The data processing system of claim 19, wherein the three-dimensional rotational image is symmetrical with respect to a plane in which the rotational axis is located.

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23. The data processing system of claim 19, further comprising the step of:

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when rotatively displaying the objects, modifying an area of each object by a predetermined scaling factor.

24. The data processing system of claim 19, further comprising the step of:

prior to assigning the objects to the layers, ordering the objects in a sequence based on depths of the objects in the two-dimensional image.

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25. The data processing system of claim 24, wherein the objects are ordered so that the object having a greatest depth is first in the sequence.

26. The data processing system of claim 24, wherein the objects are
10 assigned to one of the plurality of sequential layers, beginning with a first object in the sequence.

27. A data processing system for producing a three-dimensional rotational
image from a two-dimensional image including a plurality of objects, the data
15 processing system comprising:

means for assigning each object to one of a plurality of sequential layers that
correspond to visually depicted depths of the objects in the two-dimensional image;
and

means for rotatively displaying the objects to produce the three-dimensional
20 rotational image.

28. A computer-readable memory device encoded with a data structure
with entries, each entry reflecting a layer associated with a visually depicted depth
in a two-dimensional image including a plurality of objects, wherein a three-
25 dimensional rotational image is produced from the two-dimensional image by a
program which is encoded on the memory device and which is run by a processor
in a system, each entry comprising:

a storage area in which is stored one of the plurality of objects assigned to
the layer by the program, wherein the program rotatively displays the objects to
30 produce the three-dimensional image.